

BEST AVAILABLE COPY

Davis, Steven C.

S/N: 10/604,299

ELECTION

Applicant elects, with traverse, what the Examiner has characterized as "Invention I", deemed drawn to an RF coil assembly, and corresponding to claims 1-9. Applicant elects, with traverse, what the Examiner has characterized as "Species I", and corresponding to Figure 6, thereby preserving Applicant's right to seek review by petition. Applicant accordingly requests reconsideration and a final determination by the Examiner post-haste.

REMARKS

The Examiner has identified three 'inventions' in the pending claims. The Examiner's classification of the 'inventions' include Invention I consisting of claims 1-9 drawn to an RF coil assembly and classified by the Examiner in class 333, subclass 219, Invention II consisting of claims 10-17 drawn to MRI apparatus and classified by the Examiner in class 324, subclass 307, and Invention III consisting of claims 18-23, drawn to a method of manufacturing an RF and classified by the Examiner in class 29, subclass 606.

Claim 24 is newly presented herein to further show the relatedness of groups I and II.

Inventions I and II

The Examiner stated that "[i]nventions II and I are related as combination and subcombination." Office Action, p. 2.

MPEP §806.05(a) states that "[a] combination is an organization of which a subcombination or element is a part." So-called Invention II, drawn to an MRI apparatus, is an organization of which so-called Invention I is a part. Therefore, Invention II is a combination that includes the subcombination Invention I as a part.

MPEP §806.05(c) states that "inventions are distinct if it can be shown that a combination as claimed: (A) does not require the particulars of the subcombination as claimed for patentability..., and (B) the subcombination can be shown to have utility either by itself or in other and different relations." The Examiner stated that "the combination as claimed does not require the particulars of the subcombination as claimed because the RF coil configuration in group I is not required to be used in conjunction with an MRI apparatus as required in group II." Office Action, p. 2. However, the test is whether the combination as claimed does not require the particulars of the subcombination as claimed. The Examiner's statement that the RF coil configuration in subcombination group I is not required to be used in

Davis, Steven C.

S/N: 10/604,299

conjunction with an MRI apparatus as required in combination group II does not show that the combination as claimed does not require the particulars of the subcombination as claimed. Instead, it merely shows that the subcombination is a part of the organization of the combination including the subcombination and other elements. Such is the very nature of the combination/subcombination relationship. Distinction is not shown by stating that subcombination Invention I is not required to be used in conjunction with an MRI apparatus as required in group II. Even if it were, such is simply not the case here.

In fact, the MRI apparatus of claim 10 includes only common MR components within the first element. The patentability lies in the remainder of the claim — the RF coil assembly. A comparison of these two RF coil assemblies clearly shows similarities that require rejoinder of these claims.

The Examiner stated that "the RF coil structure of group I is not required to create an inductance that minimized a coupling of the first and second coil loops independent of coil loop position relative to one another." However, claim 1 requires "a pair of RF coils *movable* with respect to one another" and also requires that a mutual inductance be "*opposite* in polarity and substantially *equal* in magnitude to a mutual inductance of the pair of RF coils."

The Examiner has clearly not met the burden of establishing distinction and, therefore, the claims must be rejoined.

Also, the Examiner's statement that "the RF coil structure of group I is not required to create an inductance that minimizes a coupling of the first and second coil loops independent of coil loop position relative to one another," does not satisfy the requirement of a valid restriction because it does not show that the combination as claimed does not require the particulars of the subcombination as claimed. It merely shows that the combination includes at least one element not in common with the subcombination -- that is the definition of a combination and a subcombination and is not enough to support restriction.

Notwithstanding the above remarks, in order to sustain a restriction, there must be separate fields of search. MPEP §808.02. A separate field of search is not required for groups I and II regarding creating an inductance that minimizes a coupling of the first and second movable coil loops independent of coil loop position relative to one another. Claim 9 of Group I further calls for the RF coil assembly of claim 1 wherein the inductance of the inductor assemblies is such that coupling of the pair of movable RF coils is reduced regardless of coil position. A search for creating an inductance that minimizes a coupling of first and second movable coil loops independent of coil loop position relative to one another is not separate from a search for

Davis, Steven C.

S/N: 10/604,299

the inductance of the inductor assemblies such that coupling of the pair of RF coils is reduced regardless of coil position. To perform an adequate search for one, requires a search for the other.

Also, the Examiner classified Invention I in class 333, subclass 219 -- RESONATORS. The Examiner classified Invention II in class 324, subclass 307 -- using a nuclear resonance spectrometer system. The spectrometer system would include at least transducer coils coupled to a sample material being measured. See subclass 307 definition. A search for the RF coil assembly of Invention II seems that it would necessarily include a search of the classification given to Invention I by the Examiner, and vice-versa. As such, a search for the RF coil assembly of Invention I is not separate from a search for the RF coil assembly of Invention II.

As such, the Examiner has failed to show (1) that Inventions I and II are distinct and (2) that a field of search for Invention I is separate from a field of search for Invention II. Therefore, for at least these reasons, a restriction under MPEP §806.05(c) between Inventions I and II is improper, and rejoinder of Inventions I and II is required.

Inventions I and III

The Examiner related Inventions III and I as process of making and product made. Office Action, p. 2. A product made and a process for making the product can be shown to be distinct inventions if the product "can be made by another and materially different process..." and if the process "is not an obvious process of making the product and the process as claimed can be used to make other and different products." MPEP §806.05(f). The Examiner has not shown that the product can be made by another and materially different process, and Applicant is unaware of any such process. The Examiner has also not shown that the process is not an obvious process of making the product and the process as claimed can be used to make other and different products. Therefore, the Examiner has not met the burden required in MPEP §806.05(f), and rejoinder is required.

Furthermore, the Examiner stated that "the RF antenna of group I does not requires (sic) having the inductors calibrated such that the mutual inductance therebetween substantially isolates the coils independent of coil position relative to one another as required in group III." Office Action, p. 3. This is not the case. While claim 18 of Invention III calls for, in part, calibrating the first inductor assembly and the second inductor assembly such that a mutual inductance therebetween substantially isolates the first and the second RF coils independent of coil position relative to one another, claim 2 of Invention I calls for, in part, the inductor assemblies configured to cancel the mutual inductance of the pair of RF coils with varying

Davis, Steven C.

S/N: 10/604,299

relative position of the pair of RF coils as long as the first and second inductor assemblies overlap. One skilled in the art would recognize that minimizing coil coupling substantially isolates the coils. Both Invention I and Invention III include inductor assemblies configured to substantially isolate the pair of RF coils.

In addition, the Examiner must show a separate field of search. MPEP §808.02. A search for the process of group III for manufacturing an RF coil is not separate from a search for the RF coil assembly apparatus of group I.

Also, the Examiner classified Invention I in class 333, subclass 219 -- RESONATORS. The Examiner classified Invention III in class 29, subclass 606 -- "By assembling coil and core." A search for the method of manufacturing an RF coil assembly of Invention III seems that it would necessarily include a search of the classification given to Invention I by the Examiner, and vice-versa. As such, a search for the RF coil assembly of Invention I is not separate from a search for the RF coil assembly of Invention III.

As such, the Examiner has failed to show that (1) Inventions I and III are distinct and that (2) a field of search for Invention I is separate from a field of search for Invention III. Therefore, for at least these reasons, a restriction under MPEP §806.05(f) between Inventions I and III is improper, and rejoinder of Inventions I and III is required under current MPEP guidelines.

Inventions II and III

The Examiner related Inventions II and III as process of making and product made. Office Action, p. 3. A product made and a process for making the product can be shown to be distinct inventions if the product "can be made by another and materially different process..." and if the process "is not an obvious process of making the product and the process as claimed can be used to make other and different products." MPEP §806.05(f). The Examiner has not shown either (1) that the product can be made by another and materially different process or (2) that the process is not an obvious process of making the product and the process as claimed can be used to make other and different products. Therefore, the Examiner has not met the burden required in MPEP §806.05(f), and rejoinder is required.

Furthermore, the Examiner stated that "the MRI apparatus of group II does not requires (sic) having the inductors calibrated such that the mutual inductance therebetween substantially isolates the coils independent of coil position relative to one another as required in group III." Office Action, p. 3. This is not the case. Claim 18 of Invention III calls for, in part, calibrating

Davis, Steven C.

S/N: 10/604,299

the first inductor assembly and the second inductor assembly such that a mutual inductance therebetween substantially isolates the first and the second RF coils independent of coil position relative to one another. Claim 10 of Invention II calls for, in part, a mutual inductance compensation circuit constructed to generate an inductance that minimizes a coupling of the first and the second coil loops independent of coil loop position relative to one another. Claim 17 of Invention II calls for, in part, a first inductor in series with the first moveable coil loop and a second inductor in series with the second moveable coil loop. One skilled in the art would recognize that minimizing coil coupling is substantially isolating the coils. Therefore, both Invention I and Invention III include inductor assemblies that substantially isolates or minimizes coupling between the pair of RF coils independent of coil loop position relative to one another.

As stated above, the Examiner must also show a separate field of search. See MPEP §808.02. The Examiner stated that "[b]ecause these inventions are distinct for the reasons given above and the search required for Group III is not required for Group II, restriction for examination purposes as indicated is proper." Office Action, p. 4. Applicant disagrees that the search required for Invention III is not required for Invention II. Invention II calls for, in part, an RF coil assembly, and Invention III calls for a method of manufacturing an RF coil assembly. The method of manufacturing an RF coil assembly of Invention III results in the RF coil assembly of Invention II. The field of search for a method of manufacturing an RF coil assembly is not separate from the field of search for an RF coil assembly made by the process.

Also, the Examiner classified Invention II in class 324, subclass 307 -- using a nuclear resonance spectrometer system. The spectrometer system would include at least transducer coils coupled to a sample material being measured. See subclass 307 definition. The Examiner classified Invention III in class 29, subclass 606 -- "By assembling coil and core." A search for the method of manufacturing an RF coil assembly of Invention III seems that it would necessarily include a search of the classification given to Invention II by the Examiner, and vice-versa. As such, a search for the RF coil assembly of Invention II is not separate from a search for the RF coil assembly of Invention III.

As such, the Examiner has failed to show that Inventions II and III are distinct and that a field of search for invention II is separate from a field of search for Invention III. Therefore, for at least these reasons, a restriction under MPEP §806.05(f) between Inventions II and III is improper, and Applicant requests rejoinder of Inventions II and III.

Davis, Steven C.

S/N: 10/604,299

35 U.S.C. §121

The Examiner stated that the current application contains claims directed to patentably distinct species within groups I, II, and III, and corresponding to Figures 6 and 7. Office Action, p. 4. The claims readable on elected species I are claims 1-3, 5-13, and 16-21.

The Examiner stated that no claims are generic. Id. That is clearly not the case. For a claim to be generic, the claim should read on each view presented in an application that presents multiple species illustrated in the figures. MPEP §806.04(d). However, at least claims 1, 10, and 18 are generic to both Figures 6 and 7, and the Examiner has provided nothing to support otherwise.

Specifically, claim 1 calls for a pair of RF coils movable with respect to one another. Figures 6 and 7 each show a pair of RF coils movable with respect to one another. Claim 1 further calls for a first inductor assembly in series with one RF coil and a second inductor assembly in series with the another RF coil. Figures 6 and 7 each show a first inductor assembly in series with one RF coil and a second inductor assembly in series with the another RF coil. Claim 1 also calls for wherein the inductor assemblies are configured to have a mutual inductance opposite in polarity and substantially equal in magnitude to a mutual inductance of the pair of RF coils. As described in paragraphs [0034] and [0036] of the specification referring to Figures 6 and 7, respectively, the magnitude of mutual inductance that forms between the inductor assemblies substantially equals and is opposite in phase and polarity to the mutual inductance that forms between the coil loops. Therefore, since that which is called for in claim 1 reads on each of Figure 6 and Figure 7, claim 1 is indeed generic. Thus, for at least the reasons set forth above, Applicant requests rejoinder of species I and II.

Claim 10 is also generic to both Figures 6 and 7, and upon rejoinder, both "species" must be examined. Claim 10 calls for a first moveable coil loop and a second moveable coil loop. Figures 6 and 7 each show a first moveable coil loop and a second moveable coil loop. Claim 10 further calls for a mutual inductance compensation circuit connected to the first and the second moveable coil loops. Figures 6 and 7 each show a mutual inductance compensation circuit connected to the first and the second moveable coil loops. Claim 10 calls for wherein the compensation circuit is constructed to generate an inductance that minimizes a coupling of the first and the second coil loops independent of coil loop position relative to one another. Paragraphs [0034] and [0036] of the specification referring to Figures 6 and 7, respectively, describe generating an inductance that minimizes a coupling of the coil loops independent of coil

Davis, Steven C.

S/N: 10/604,299

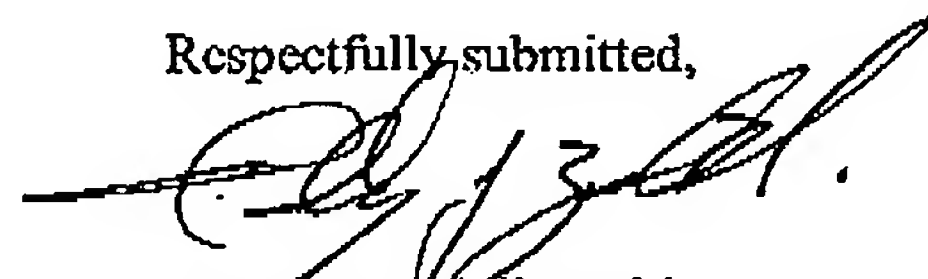
loop position relative to one another. Therefore, since that which is called for in claim 10 reads on each of Figure 6 and Figure 7, claim 10 is indeed generic.

Claim 18 is generic to both Figures 6 and 7, and upon rejoinder, both "species" must be examined. Claim 18 calls for connecting a first inductor assembly in series with a first RF coil and connecting a second inductor assembly in series with a second RF coil. Figures 6 and 7 each show the connection of a first inductor assembly in series with a first RF coil and connection of a second inductor assembly in series with a second RF coil. Claim 18 further calls for calibrating the first inductor assembly and the second inductor assembly such that a mutual inductance therebetween substantially isolates the first and the second RF coils independent of coil position relative to one another. Paragraphs [0034] and [0036] of the specification referring to Figures 6 and 7, respectively, describe calibration of the inductor assemblies such that the RF coils are isolated from each other independent of coil position relative to one another. Therefore, since that which is called for in claim 18 reads on each of Figure 6 and Figure 7, claim 18 is generic.

For all these reasons, Applicant respectfully requests rejoinder of all claims, of each group. If rejoinder is not forthcoming, Applicant requests more specificity from the Examiner compliant with the MPEP guidelines so as to seek review. The Examiner is invited to call the undersigned to discuss this Election or any other matters regarding this application to further prosecution.

Applicant hereby authorizes charging of deposit account no. 07-0845 for the fee associated with newly entered claim 24.

Respectfully submitted,



Timothy J. Ziolkowski
Registration No. 38,368
Direct Dial 262-376-5139
tjz@zpspatents.com

Dated: September 13, 2004
Attorney Docket No.: GEMS8081.146

P.O. ADDRESS:
Ziolkowski Patent Solutions Group, LLC
14135 North Cedarburg Road
Mequon, WI 53097-1416
262-376-5170

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☐ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.